

Amendment to Drawing:

The attached sheet of drawing include changes to Figure 3. This sheet which includes Figure 3 replaces original sheet Figure 3.

Attachment Replacement sheet

REMARKS

Claims 39, 52, 55 and 56 have been amended in accordance with the Examiner's suggestion. In Claims 39 and 52, "stranded pair" was amended to recite --pair of stranded conductors.-- In Claim 52, "protective" was amended to --protection--. Claim 52 was amended in order to correspond with the terms recited in Claim 33. In Claim 55, "the" was amended to --a--. In Claim 56, the term "further" was added to show the additional embodiments of claim 56 as compared to claim 33. It is submitted that there are no new matter incorporated in these amendments.

Replacement Figure 3 is attached. In amended Figure 3, proper hatchings were incorporated in accordance with the Examiner's suggestion.

35 U.S.C. §112

It is submitted that Claims 33, 37 and 42 are definite. The claims properly recite the circuit which refers to "the at least one or plurality of transmission circuit" in line 7 of claim 33. There are no other circuits recited in Claim 33.

If the claims read in the light of the specification reasonably apprise those of ordinary skill in the art both of the utilization and scope of the invention, and if the language is as precise as the subject matter permits, the courts can demand no more. *Shatterproof Glass Corp. v. Libbey-Owens Ford. Co.*, 225 USPQ 634 (Fed. Cir. 1985).

Further, MPEP §706.03 (d) provides that "Some latitude in the manner of expression and the aptness of the terms should be permitted even though the claim language is not as precise as the Examiner might desire."

From the above, it is submitted that the term "circuit" can be determined by one of ordinary skill in the art from the protocol disclosed in the Applicants' specification. Where one of ordinary skill in the art would know the elements necessary to achieve the desired result, the claim is definite and satisfies the requirement of 35 U.S.C. §112, second paragraph.

Applicants submit that claims 39, 52, 55 and 56 under 35 U.S.C. §112 are definite. However, claims 39, 52, 55 and 56 have been amended in accordance with the Examiner's suggestion. The claims have been amended to "merely clarify" the language already in the claims. The amendments do not change the scope of the claim and can not

be construed as substantive changes. *Kaufman Co. Inc. v. Lantech Inc.*, 1 USPQ 2d 1202, 1207 (Fed. Cir. 1986). The amendments merely clarified the term language of what was always *implicit* or *inherent* and are not substantive changes. Applicants request entry of these amendments.

Accordingly, the withdrawal of the rejection of claims 33, 37, 39, 42, 55-56 is respectfully requested.

The Invention

The present invention is directed to an improved overhead or underground telephone lead-in cable for transmission services (VVDL) based on the design of self supporting elements for overhead lead in lines and a dedicated circuit permitting a high speed digital signal transmission *without interfering* at all with the voice service signals or the use of additional electronic circuits to separate the signals. The cable design is *highly resistant to diaphony* and is characterized with a core of two insulated conductors **impregnated with a surrounding layer of moisture absorbing swelling powder**. There is **no** disclosure or suggestion in Osornio regarding a moisture absorbing swellable material.

Moreover, the distribution of the film of the swelling material is applied *electrostatically* such that it is controlled in a quantity proportional to the required thickness of the film. As disclosed on page 5, lines 19-24 of the Applicants' specification, the film of moisture absorbing layer is applied alternately through an electrostatic system when the external cover of the cable is applied. The system permits the distribution of the film in a controlled way, and the deposit of the swelling material in a quantity that is proportional to the required thickness of the said film.

Furthermore, disclosed on page 6, lines 16-19 of Applicants' specification is as follows, "between the conductive elements of circuits 12 and 13 and protective film 16 or sleeve 8 area, the swelling powder layer based on a superabsorbing polymer is formed." Page 10, lines 9-12 discloses, "tape 16 and the core of strand 15 is impregnated with the moisture absorbable swelling material."

The advantage of the cable design is tensile strength, i.e., the increase of the installation span distance that can be solved through the change of cross section of the support elements or the type of material used in their manufacturing. Moreover, the use

of swelling power on the paired core permits the direct use of the cable in underground installations because the absorbing material prevents the penetration of the moisture, usually found in underground installation. Additionally, the cable withstands a crushing test of 1000lb/f (14.88 kg/cm).

From the above, the use of the moisture swellable material and the manipulation of application technique through electrostatic means in a controlled manner to achieve a cable which is highly resistant to diaphony, highly crush and moisture resistant and possesses modified tensile strength.

35 U.S.C. §103

I. The rejection of the claims under 35 U.S.C. § 103 should be withdrawn because there is no motivation or suggestion to combine the prior art and arrive at the claimed invention.

The Examiner has not shown prior art that provides motivation or suggestion to incorporate the moisture swellable polymer in the cable of Osornio and arrive at the cable design of the presently claimed invention. In addition, the Examiner has not shown the motivation to choose/select polysodium acrylate homopolymer from a multitude of polymers, combination of multitude of polymers, and ingredients such as blowing agents, UV agents, tackifying resins, fillers, surfactants, organic/inorganic acids, adhesion promoters, photoinitiators, etc. disclosed in Asai. Further, the ability of one of ordinary skill in the art to prepare a swellable polymer *does not* lead the artisan to achieve the presently claimed cable because there are several factors to be considered, e.g., bandwidth and resistance to radio interferences, cable weight, high speed transmission above 155 Mbps, response to frequencies above 100 Mhz and self supporting over distances spanning more than 100 meters. It is submitted that the specified claimed modifications *must be specifically* motivated or suggested by the prior art.

As discussed, it is an on-going goal in the art to modify overhead lead in lines of telephone services. This *can not* be done by simple substitution without experimentation. It is submitted that the specified claimed modifications must be specifically motivated or suggested by the prior art.

Recent court opinions hold that the references must plainly or clearly suggest the combination of elements. See, for example, *King Instruments Corp. v. Otari*, 767 F.2d 853, 859 (Fed. Cir. 1989). See also *In re Grabiak*, where the Federal Circuit repeated the CCPA's statement in *In re Bergel and Stock*, 130 USPQ 206, 208 (1961):

The mere fact that it is *possible* to find two isolated disclosures which might be combined in such a way to produce a new product does not necessarily render such production obvious unless the art also contains something to suggest the desirability of the proposed combination [emphasis added].

226 USPQ 870, 872 (Fed. Cir. 1985). Applicants' claims are *not* obvious in view of the above legal standard because the references, when taken together, fail to motivate or suggest the combination. As will be explained below, the cited art fails to provide motivation or suggestion of the present invention for several reasons.

It is impermissible within the framework of 35 U.S.C. §103 to pick and choose from a reference only so much of it as will support a conclusion of obviousness to the exclusion of other parts necessary to a full appreciation of what the reference fairly suggests to one skilled in the art. *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 230 USPQ 416 (Fed. Cir. 1986). Courts have long cautioned that consideration must be given "where the references diverge and teach away from the claimed invention". *Akzo N.V. v. International Trade Commission*, 1 USPQ 2d 1241, 1246 (Fed. Cir. 1986).

In the present instance, the Examiner improperly selected disclosures from the cited prior art without finding the motivation or suggestion necessary for one of ordinary skill in the art to combine them.

In summary, none of the cited references supplies the requisite motivation or suggestion to prepare a cable of the presently claimed invention with modified tensile strength, highly resistant to diaphony, highly crush and moisture resistant, and provides high speed digital services link, as well as analog services.

Applicants request the withdrawal of the rejection of the claims 1-8 as being unpatentable over Osornio et al. in view of Asai et al.

II. The Examiner has improperly used Applicants' own teaching to construct the obviousness rejection

There is no motivation or suggestion on the part of one of ordinary skill in the art at the time the invention was made to incorporate the polymer of the secondary reference Asai in the cable of Osornio *et al.* and achieve the cable of the presently claimed invention.

Applicants argue that there is no motivation to combine the teaching of Asai with Osornio and arrive at the present invention for the following reasons.

First, Asai is directed to **processes**, i.e., preparing water swellable materials and **radiation cure processes** for preparing swellable materials, e.g., a substrate impregnated with or having a coating of a mixture of radiation polymerized compound and a water swellable compound. Note col. 2, lines 30-33. The *problems* addressed by Asai is to avoid the presence of solvents and water in the process for preparing the polymers. Asia used a radiation cure process to eliminate these problems.

Second, since Asai's intention is to prepare polymers using radiation cure process, a multitude of polymers are disclosed. Several polymers, include cationically polymerizable systems, e.g., vinyl ether or epoxy functional materials with hydroxyl functional reactants. Other polymers include crosslinked polyacrylates, copolymers or terpolymers of acrylic acid, crosslinked polyethylene oxides, polyvinyl alcohols, crosslinked polyethylene oxides, polyvinyl alcohol, polyvinyl ethers and related co- and ter-polymers, polymaleic anhydrides and copolymers. Moreover, these polymers are combined with photoinitiator, UV agents, surfactants, blowing agents such as metal carbonates and bicarbonates with or without organic/inorganic acid, adhesion promoter or tackifying resin. Note Tables 1-2. Additional polymers are added and a listing of a multitude of these polymers are on col. 7, lines 21-46. Bases, solvents, salts, fibers, fine particles and fillers are also added. The resulting composition are polymerized and cured. From the preceding discussion of Asai, it is submitted that there is no motivation or suggestion to incorporate the embodiments of Asai in the presently claimed invention.

Third, a person of ordinary skill in the art upon reading Asai, will have to determine if he has to use blowing agents, fillers, tackifying resins, UV agents, adhesion

promoters, surfactants, a multitude of polymers, combination of a multitude of polymers or a combination of all the different reagents in preparing a water swellable polymer. A person of ordinary skill in the art would *not* choose a single polymer from a multitude/plethora of selections and incorporate it in the cable of the present invention and achieve unexpected results.

It is submitted that there is no motivation or suggestion in the prior art to pick and choose a specific polymer from a multitude of polymers, catalysts, tackifying resins and particularly use it for the purpose of preparing the cables of the present invention. In re Albrecht, 435 F.2d 908, 911, 168 USPQ 293, 296 (CCPA 1971).

From the above, there is no motivation or suggestion on the part of one of ordinary skill in the art at the time the invention was made to incorporate the polymer of the secondary reference Asai in the cable of Osornio *et al.* and achieve the cable of the presently claimed invention. The *only* possible motivation would have been supplied by the Applicants' own specification, which of course would be proscribed as hindsight application of Applicants' own teachings.

It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This Court has previously stated that "[one] cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fritch*, 23 USPQ 2d 1780 (Fed. Cir. 1992).

The *only* teaching linking the polymer of Asai *et al.* is found in the present application. Moreover, even if the references did indicate that such a polymer might be tried, an *obvious-to-try* standard would be indicated, which is clearly *not* a sufficient basis for the rejection. The specified claimed modifications must be specifically motivated or suggested by the prior art.

Thus, the Examiner improperly used the Appellants' own teachings in an attempt to show obviousness of the present invention.

III. The Examiner has chosen to improperly ignore the Applicants' limitation in the presently claimed invention.

The claims are directed to an overhead or underground lead in cable for voice, video, and data (VVDL) transmission services. The claims recite that the swelling layer is

deposited electrostatically as a moisture protection element. In Claim 39, the claims recite the swelling layer is electrostatically applied to form a cover layer on the pair of stranded conductors during the extrusion of a flame resistant reinforced thermoplastic cover. In Claim 46, the insulation is applied continuously and uniformly such that the concentricity of the wall of insulating material with regard to the conductor is higher than 90% and can be colored for identification purposes. In Claim 48, the swelling layer comprises a filler which serves as a moisture protection element and is deposited electrostatically and arranged between the area around the thin sleeve and core of stranded conductors. In Claim 53, the space between the tape material and the stranded conductor is impregnated through electrostatic means with the swelling layer.

In effect, the Examiner has viewed the Appellant's own Disclosure as "prior art" under 35 USC § 103, which it is not. In order to ignore this limitation as immaterial, the Examiner must also improperly assume that the limitation to *the use of swellable material and the manner it was electrostatically applied to the different parts of the cable* serves no useful purpose.

In *In re Kuehl*, 177 USPQ 250 (CCPA1973), the Court considered the "invention as a whole" to include the new zeolite as well as a process utilizing the new zeolite. The Board of Appeals which required the Appellant in *Kuehl* to show unexpected results in the use of the new zeolite, confused the "invention as a whole" with "the prior art". This requirement was considered by the Court as an improper requirement based upon the use of the hindsight.

Similarly, in the instant case, it is submitted that the Examiner has confused the terms "prior art" and "subject matter (invention) as a whole" as used in 35 U.S.C. § 103, specifically, to consider "electrostatic application of swellable material to different parts of cable" as a non-critical limitation or as part of the "prior art" for the purposes of applying the statute. Accordingly, the Examiner's rejection incorrectly treats the claim limitation to the electrostatic application of swellable material to different parts of cable as part of the prior art. The correct application of the test of §103 requires that the claims on appeal not be judged against any prior art other than the references cited and applied by the Examiner.

In *In re Pleuddemann*, 15 USPQ 2d 1738 (Fed Cir. 1990), a new class of coupling agents was discovered upon which the Patent Office had granted claims on articles made utilizing said coupling agents. Pleuddemann appealed claims directed to a use of new coupling agents for bonding or priming. The appealed claims recited the use of a novel and non-obvious class of organosilane compound. The Court again reversed the Board of Appeals on the basis that the Board had erroneously considered that in order for the process of use claims to be patentable, the result of the claimed process or method should be unpredictable in order to render the process non-obvious. The Court in *Pleuddemann* found the same flaw in the Board's reasoning as it found in *Kuehl* in that the Board presumed the Appellant's group of silane compounds to be "prior art". Similarly, the Examiner here has considered the Appellants quantitative method to be "prior art".

It is only by using hindsight that the Examiner can use the Applicants' swellable material in providing high speed digital signal transmission without interference, resistance to diaphony and use of additional electronic circuits to separate signals. The Examiner has used the Appellants' specification teaching as though it were "prior art" to reject the Applicants' claims directed to an improved overhead and underground telephone lead-in cable for voice, data and video transmission services.

The Federal Circuit held that the use of *per se* rules is improper in applying the test for obviousness under 35 U.S.C. §103. Rather, §103 requires a highly fact dependent analysis involving taking the "claimed subject matter as a whole" and comparing it to the prior art. To support a rejection under §103, the collective teachings of the prior art must have suggested to one of ordinary skill in the art that, at the time the invention was made, Applicants' claimed invention would have been obvious. It has been held that there simply was no suggestion or motivation in the prior art to obtain the unobvious products to which the claims were limited. Consequently, the rejections were overturned based upon §103.

In interpreting "a claimed invention as a whole", consideration of all the claim limitations is required. Thus, the language in a claim which recites application of a swellable material in an unobvious product must be treated as a material limitation and a motivation regarding this limitation must be present in the prior art for a §103 rejection to be sustained.

The invention is directed to a manipulation of the incorporation of a swellable material, i.e., using a swellable material and applying it electrostatically to produce the cable of the presently claimed invention with unexpected properties. The issue is whether the prior art cited by the Examiner in no way suggests or teaches the modification. Clearly, in view of the improved cable, no such suggestion is made.

Response to Examiner's rejections

The Examiner stated the following rejections:

A. "The Examiner argued that Osornio discloses a telephone lead in except the swelling layer surrounding the core. Osornio teaches that he is concerned with protecting the interior components from exterior elements. Asai teaches a water swellable material which is cost efficient. Based on the teachings of Osornio and Asai, there is a motivation to incorporate the waterproofing filler as taught by Asai into the cable of Osornio."

Applicants submit that Osornio, who is one of the inventors in the present application, discloses a telephone lead in cable. However, as disclosed in page 2, paragraph 0015, Osornio did not require a swelling material. "Cover 16 *provides the protection* against mechanical abuse to which the elements are submitted during warehousing, transportation and installation. The cover compound is weatherproof and protects the circuit against premature aging caused by solar action, water or any external agents." Thus, disclosure from Osornio provides **no intention** for additional protection to be weather resistant. The weather resistant objective of Osornio has been **satisfied** by cover 16. Nothing in Osornio discloses or suggests the presently claimed invention regarding the use of a swellable polymer. If anything, Osornio teaches away from the claimed invention.

In contrast, the present invention **required** the swelling agent and cover 16 to provide additional advantages against moisture for underground and overhead cable. The cable provides high speed digital signal transmission *without* interference from voice service signals and use of additional electronic circuits to separate signals.

It is submitted that the cable of Osornio includes 24 AWG conductors as components of the conductive core of the cable. In contrast, the present application

permits the development of new cable constructions, e.g., 16 to 26 AWG conductors. The electrical performance of the new VVDL cable of two 24 AWG conductors fulfills the following electrical characteristics. Note Tables 1, 2 and 3 of the present application.

Asai is directed to a **process for preparing** water swellable materials and radiation cure processes for their preparation. In particular, it is concerned with the use of such materials and processes for the preparation of water absorbent or water blocking coatings in a rapid continuous process. It further discloses a *multitude of polymers, combination of multitude of polymers*, and ingredients such as *UV agents, tackifying resins, stabilizing agents, fillers, photoinitiators, surfactants, blowing agents, organic or inorganic acids*, etc. as discussed above. Tests were conducted to determine the viscosity of the polymer and balance cure efficiency.

Moreover, Asai's problems are directed to avoiding presence of water, solvents or fluids, thereby incorporating the radiation cure process. Asai does **not** specifically address the types of or particular problems to which the claimed invention is confronted with, i.e., high speed digital signal transmission without interference from voice service signals and use of additional electronic circuits to separate signals. Thus, even if considered would not suggest the invention to one skilled in the art. If the prior art does not appreciate the existence of the problem solved by the invention, the Applicants' recognition of the problem is in itself, **strong evidence of non-obviousness of the present invention**. *In re Nomiya*, 184 USPQ 607 (CCPA 1975).

Accordingly, Applicants request the withdrawal of the rejection of claims 1-8 as being unpatentable over Osornio in view of Asai.

B. The Examiner urged that "the fact that Asai discloses an abundance of polymers, with additives, doesn't distract from the suggestion to utilize the waterproofing filler material... Specifically, the courts have been consistent that if a species (configuration) is clearly named, the species claimed is **anticipated** no matter how many other species are additional (sic) named. Ex parte A, 17 USPQ 2d 1716 (BPAI 1990)."

It is submitted that the Examiner's arguments and reliance upon anticipation (35 U.S.C. §102) were misplaced. Anticipation is a question of fact while obviousness is

reasonable person of ordinary skill standard. The Examiner **can not** apply a 35 U.S.C. §102 anticipation rejection in a 35 U.S.C. §103 obviousness rejection. *In re King*, 231 USPQ 136 (Fed. Cir. 1986).

The rejections here are under §103, not §102, which require the Examiner to consider Applicants' argument that the present invention and Asai's disclosure are directed to a different purpose and that persons of ordinary skill in the art would not look to Asai for a solution to the problem addressed by Applicants.

As discussed above, Asai was concerned with avoidance of solvents or water in the process for preparing water swellable polymers. A multitude of polymers, a combination of a multitude of polymers, as well as *UV agents, tackifying resins, stabilizing agents, fillers, photoinitiators, surfactants, blowing agents, organic or inorganic acids*, etc. were used. It is submitted that there is no motivation or suggestion that one of ordinary skill in the art would pick and choose a certain polymer, from a plethora of ingredients and starting materials, incorporate this teaching in the presently claimed invention and achieve the desired results.

Moreover, the techniques in applying the water swellable polymer are nowhere taught or disclosed in the prior art. The water swellable polymer of the present invention was applied electrostatically in a controlled alternating manner and applied as a coating to different parts of the cable. For example, the swellable material is between the conductive elements of circuits 12 and 13 and protective film 16 or sleeve 18 area. Furthermore, tape 16 and core of strand 15 is impregnated with the swellable material.

This is a classic situation in which no motivation or suggestion is found in the prior art. See, for example, *In re Rinehart*, 189 USPQ 143, 149 (CCPA 1976) where the CCPA clarified that it was improper to maintain an obviousness rejection where "the problem is nowhere alluded to in either . . . [references] and of course no suggestion of a solution appears in either reference." In the present case, as in *Rinehart*, it is improper, and indeed illogical, to find a motivation in the prior art to combine elements to solve a problem when the problem being solved was unknown.

Where the prior art does not appreciate the existence of the problem solved by the invention, the Applicant's recognition of the problem is, in itself, strong evidence of the non-obviousness of the invention. *In re Spinnable*, 160 USPQ 237, 243 (CCPA 1969).

Arzate et al.

10/780,021

Response to OA dated 5/6/05

Applicants request the withdrawal of the rejection of the claims 1-8 as being unpatentable over Osornio et al. in view of Asai et al.

In view of the above remarks, it is respectfully submitted that the claims are in condition for allowance. In the event that there are any problems which can be expedited by telephone conference, the Examiner is invited to telephone the Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,
LAW OFFICE OF CARMEN PILI EKSTROM

Enclosures:

Attorney Docket No. MX/JFC04-01A

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